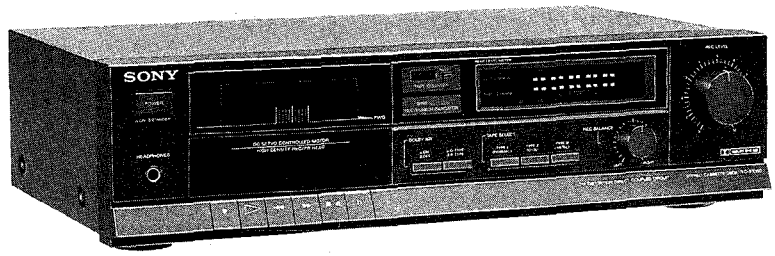
TC-FX150

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model
E Model



Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ⧈ are trademarks of Dolby Laboratories Licensing Corporation.

SPECIFICATIONS

Recording system
4-track 2-channel stereo
Fast-forward and rewind time
Approx. 120 sec. (with C-60 cassette)
Bias frequency 105 kHz
Signal-to-noise ratio (NAB, at peak level)

Dolby NR switch / Cassette	OFF	B-TYPE ON	C-TYPE ON
TYPE IV (Sony METAL-ES)	58 dB	65 dB	71 dB
TYPE II (Sony UX-S)	56 dB	63 dB	69 dB
TYPE I (Sony HF-S)	54 dB	61 dB	67 dB

Total harmonic distortion
1.0% (with Sony METAL-ES cassette)
Frequency response (DOLBY NR OFF)

TYPE IV cassette (Sony METAL-ES)	30 – 15,000 Hz (± 3 dB/DIN) 30 – 13,000 Hz (±3 dB, 0VU recording) 20 – 16,000 Hz
TYPE II cassette (Sony UX-S)	30 – 14,000 Hz (±3 dB/DIN) 20 – 15,000 Hz
TYPE I cassette (Sony HF-S)	30 – 13,000 Hz (±3 dB/DIN) 20 – 14,000 Hz

Wow and flutter 0.12% WRMS (NAB)
± 0.2% (DIN)
Inputs

Connector	Type	Sensitivity	Impedance
LINE IN	phono	77.5 mV (–20 dB)	50 kilohms

Outputs

Connector	Type	Rated output level	Load impedance
LINE OUT	phono	0.44 V (–5 dB) at load impedance 47 kilohms	over 10 kilohms
HEAD-PHONES	stereo phone	0.3 mW at load impedance 32 ohms	—

Tape Transport Mechanism Type	TCM-YM47CW-32

General
Power requirements

AEP model	220 V AC (240 V AC adjustable by authorized Sony personnel), 50 Hz
US, Canadian model	120 V AC, 60 Hz
UK model	240 V AC (220 V AC adjustable by authorized Sony personnel), 50 Hz
E model	120, 220, or 240 V AC adjustable, 50/60 Hz

Power consumption
10 watts
Dimensions Approx. 430 × 115 × 250 mm (w/h/d)
(17 × 4⅝ × 9⅞ inches)
including projecting parts and controls
Weight Approx. 2.8 kg (6 lbs 3 oz)
Supplied accessories
Connecting cord (2)

Design and specifications subject to change without notice.

Note
This appliance conforms with EEC Directives 76/889 and 82/499 regarding interference suppression.

MICROFILM

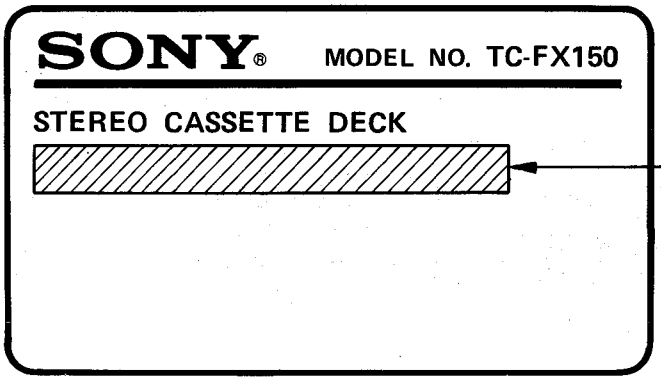
STEREO CASSETTE DECK

SONY

TC

MODEL IDENTIFICATION

– Specification Label –



US, Canadian Model: AC: 120 V 60 Hz 10 W
AEP Model: AC: 220 V ~ 50/60 Hz 10 W
UK Model: AC: 240 V ~ 50/60 Hz 10 W
E Model: AC: 120, 220, 240 V ~ 50/60 Hz 10 W

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

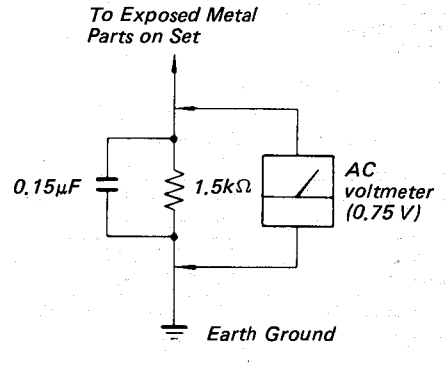


Fig. A. Using an AC voltmeter to check AC leakage.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

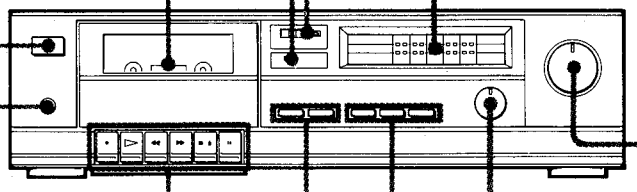
TABLE OF CONTENTS

Title	*Description*	*Page*
	Specifications	1
	Model Identification	2
	Location and Function of Controls	4
Section 1.	Adjustments	5
Section 2.	Diagrams	8
2-1.	Mounting Diagram	9
2-2.	Schematic Diagram	11
Section 3.	Exploded Views and Parts List	14
Section 4.	Electrical Parts List	18
Trouble Checks		22

MEMO

LOCATION AND FUNCTION OF CONTROLS

FRONT PANEL



POWER/REC (record) indicator
Lights up in green when the power is turned on and in red when ● is depressed.

Cassette holder

POWER switch

HEADPHONES jack (stereo phone jack)

Tape operation buttons
● (record) button
▶ (playback) button
◀◀ (rewind) button
▶▶ (fast-forward) button
■ ⏏ (stop/eject) button
❚❚ (pause) button

DOLBY* NR (Noise Reduction) switches
Select Dolby B or C to record or play back with the Dolby NR system.

TAPE COUNTER and RESET button
Use the tape counter as a reference when searching for recorded materials.
To reset to zero, press the RESET button.

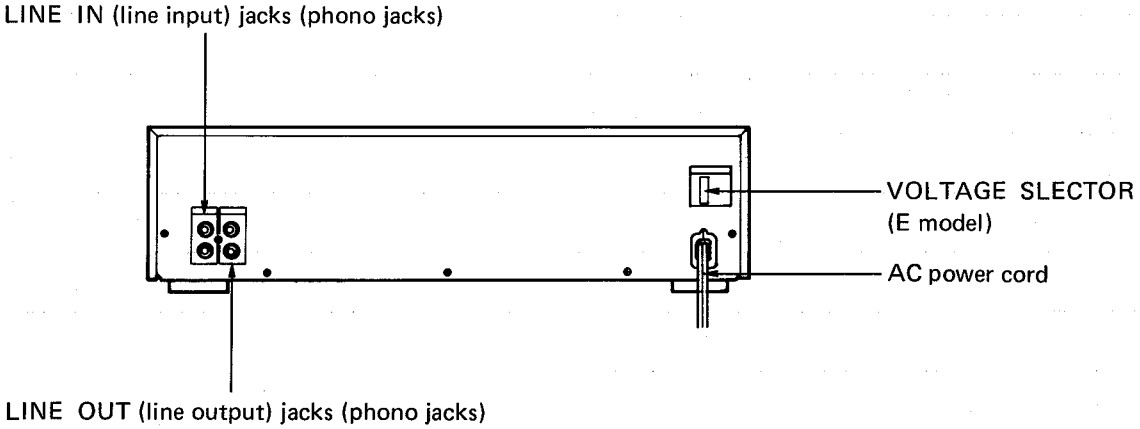
PEAK LEVEL METERs
Show the peak input level of each channel during recording, and recorded levels in the playback mode.

REC LEVEL (recording level) control

REC BALANCE control
Adjusts the recording balance of both channels.

TAPE SELECT switches
Select the tape tape.

REAR PANEL



SECTION 1
ADJUSTMENTS

1-1. MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab:

record/playback head	pinch roller
erase head	rubber belts
capstan	idler

2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply boltage unless otherwise noted.

Torque Measurement

Torque	Torque	Meter reading
FWD	CQ-102C	30 to 70 g•cm (0.43 to 0.97 oz•inch)
FWD Back tension	CQ-102C	1.5 to 5.5 g•cm (0.02 to 0.07 oz•inch)
FF, REW	CQ-201B	63 g•cm or more (0.87 oz•inch or more)

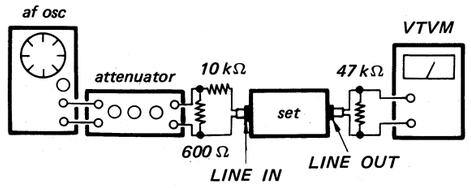
1-2. ELECTRICAL ADJUSTMENTS

Note: The adjustment should be performed in the order given in this service manual.
The adjustments should be performed for both L-CH and R-CH.

- Switches and controls should be set as follows unless otherwise specified.
  DOLBY NR switch: OFF
  TIMER switch: OFF

- Standard Record:
  Deliver the standard input signal level to the input jack and set the REC LEVEL control to obtain the standard output signal level.

– Record Mode –



Standard Input Level

	LINE IN
source impedance	10 kΩ
input level	0.25 V (–10 dB)

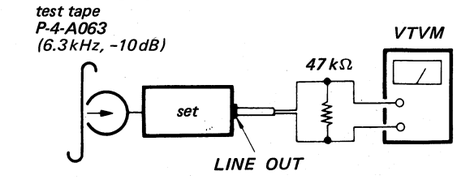
Standard Output Level

	LINE OUT
load impedance	47 kΩ
output level	0.44 V (–5 dB)

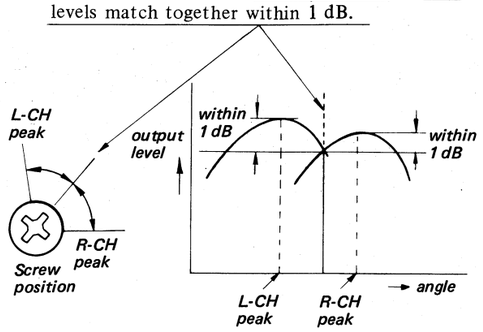
Record/Playback Head Azimuth Adjustment

Procedure:

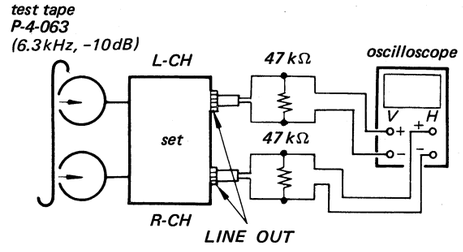
1. Mode: playback

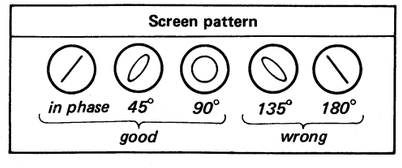


2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1 dB.



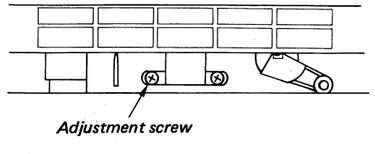
3. Phase Check
   Mode: playback





Adjustment Location:

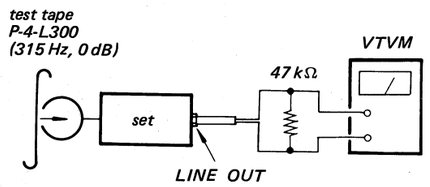
– Record/Playback head –



Playback Level Adjustment

Procedure:

1. Mode: playback

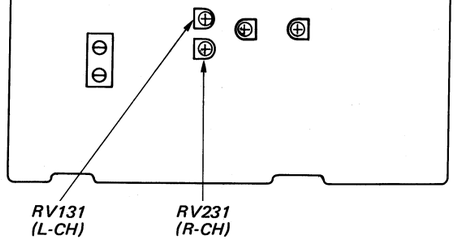


Adjust RV131 (L-CH) and RV231 (R-CH) so that the specification is met.

Specification:

Line OUT level: 0.41 to 0.46 V
(–5.5 to –4.5 dB)
Level difference between channels:
less than 0.5 dB
Check that the LINE OUT level does not change in playback mode while changing the mode from playback to stop several times.

Adjustment Location: audio borad



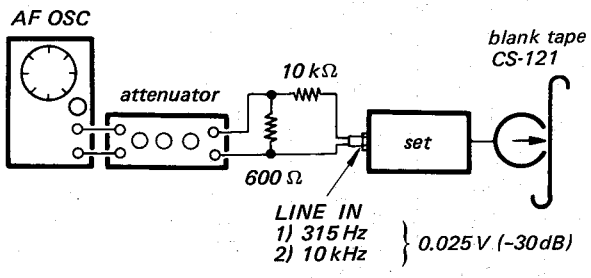
Record Bias Adjustment

Setting:

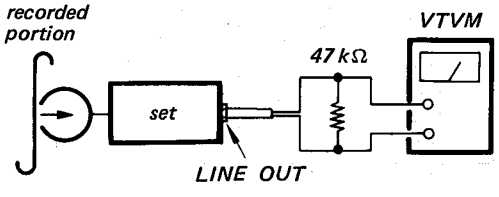
REC LEVEL control: standard record
(See page 5)

Procedure:

1. Mode: record

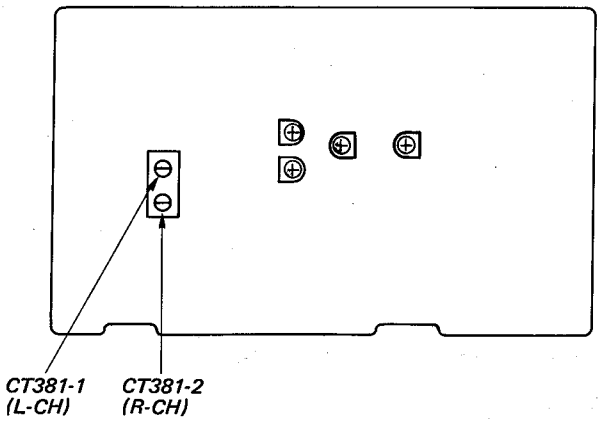


2. Mode: playback



Confirm that the 10 kHz playback output is 0±0.5 dB relative to the 315 Hz output. If necessary, adjust CT381-1 (L-CH), CT381-2 (R-CH) and repeat the steps given above.

Adjustment Location: audio board



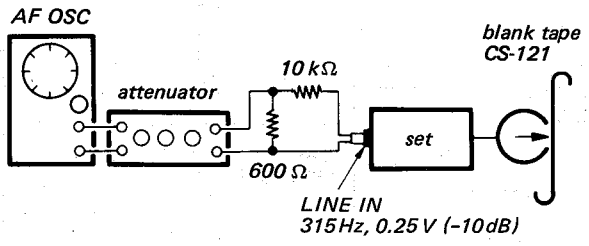
Record Level Adjustment

Setting:

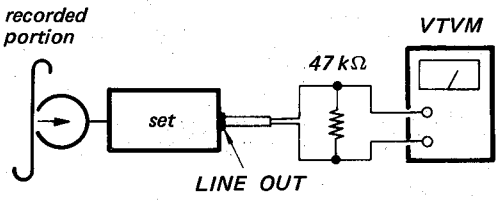
REC LEVEL control: standard record
(See page 5)

Procedure:

1. Mode: record



2. Mode: playback

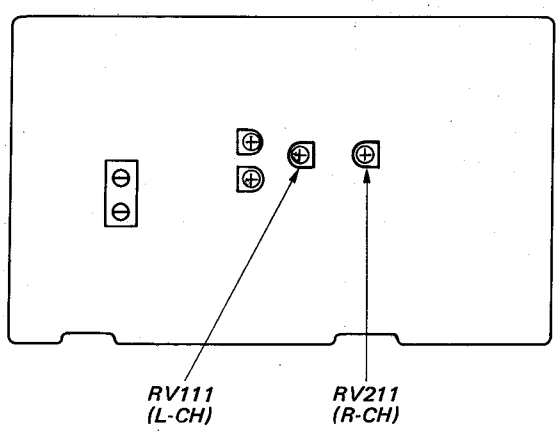


3. Playback the signal recorded in step 1. Confirm that the signal level is within the specification below. If necessary, adjust RV111 (L-CH), RV211 (R-CH) and repeat the step 1-3.

Specification:

LINE OUT level: 0.41 to 0.46 V
(-5.5 to -4.5 dB)

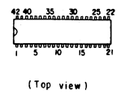
Adjustment Location: audio board



SECTION 2
DIAGRAMS

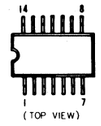
● Semiconductor Lead Layouts

CX20187

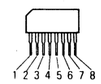


IR2E31A

M4011BP

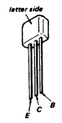


M5218L

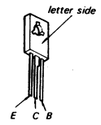


M5218P
μPC4570C-1

BN1A4M-TP
BN1L4M-TP
2SA1175TP-R
2SC2785TP-F



2SB731-F
2SD809-F



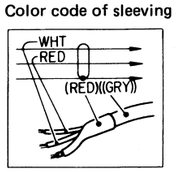
2SC945TP-R
2SC1815Y-TPE2

● Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D171	H-8	IC171	H-12
D172	H-9	IC271	H-12
D173	H-9	IC311	D-11
D174	H-10	IC331	D-7
D175	H-10	IC341	D-9
D271	H-8	IC361	H-7
D272	H-9	IC381	B-9
D273	H-9		
D274	H-10	Q161	B-12
D275	H-10	Q261	B-12
D371	H-5	Q371	H-7
D381	C-5	Q381	E-5
D382	C-6	Q382	E-6
D383	B-9	Q383	C-5
D384	B-9	Q384	C-5
D385	B-10	Q388	B-10
D386	B-9	Q389	B-9
D401	B-5	Q401	B-7
D402	B-5	Q404	C-6
D403	C-5	Q406	B-6
D404	C-5		
D405	B-6		
D406	B-8		
D407	B-7		

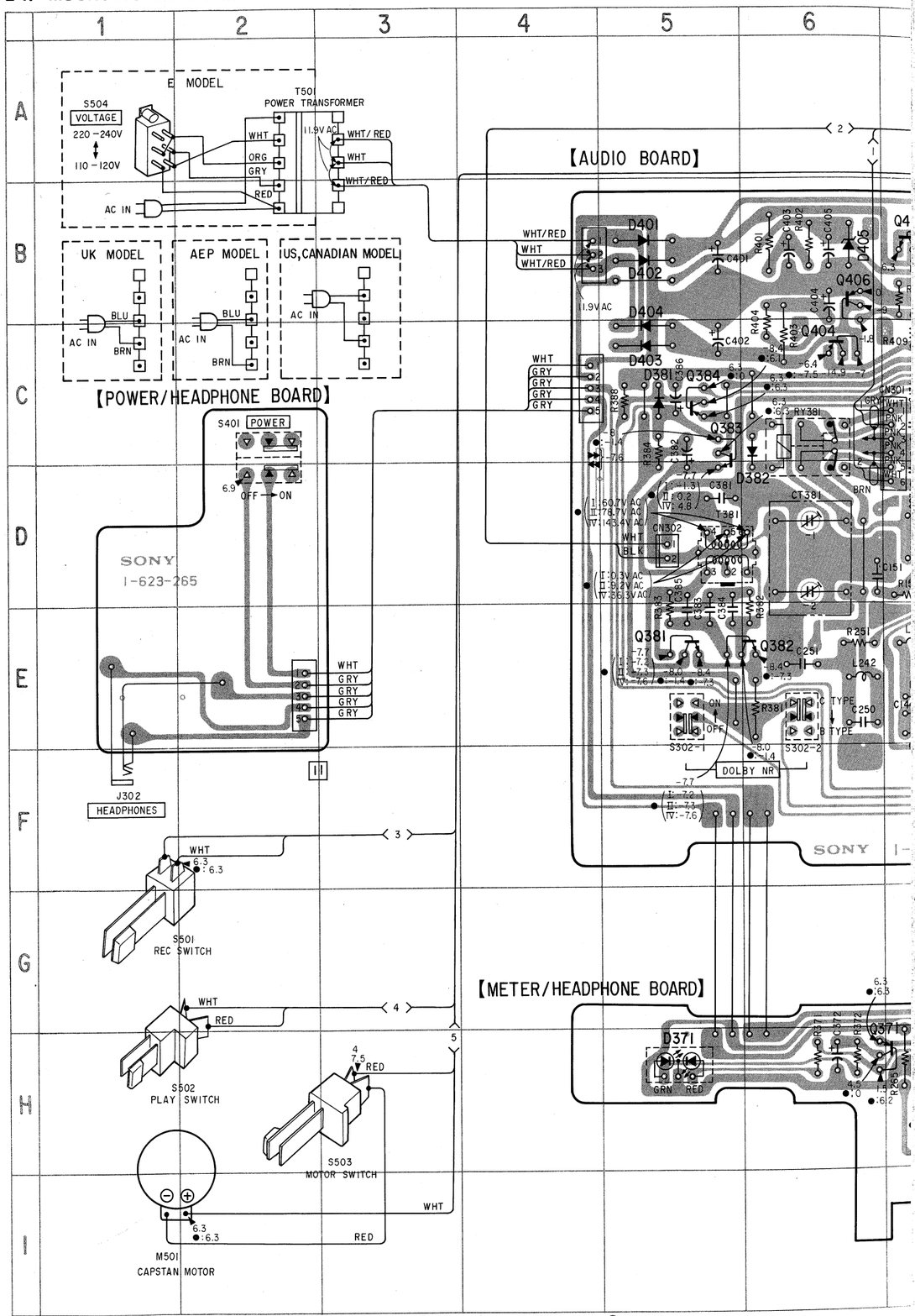
Note:

- Color code of sleeving over the end of the jacket.



- ○— : parts extracted from the component side.
- ●— : parts extracted from the conductor side.
- ■ : part mounted on the conductor side.
- [ ]— : indicates side identified with part number.

2-1. MOUNTING DIAGRAM — *Conductor Side* —



4 5 6 7 8 9 10 11 12 13 14 15

【AUDIO BOARD】

【PIN JACK BOARD】

SONY 1-623-265

LINE IN J301 LINE OUT

HRP REC/PB HEAD

HE ERASE HEAD

【REC VOLUME BOARD】

SONY 1-623-265

RV301 REC LEVEL

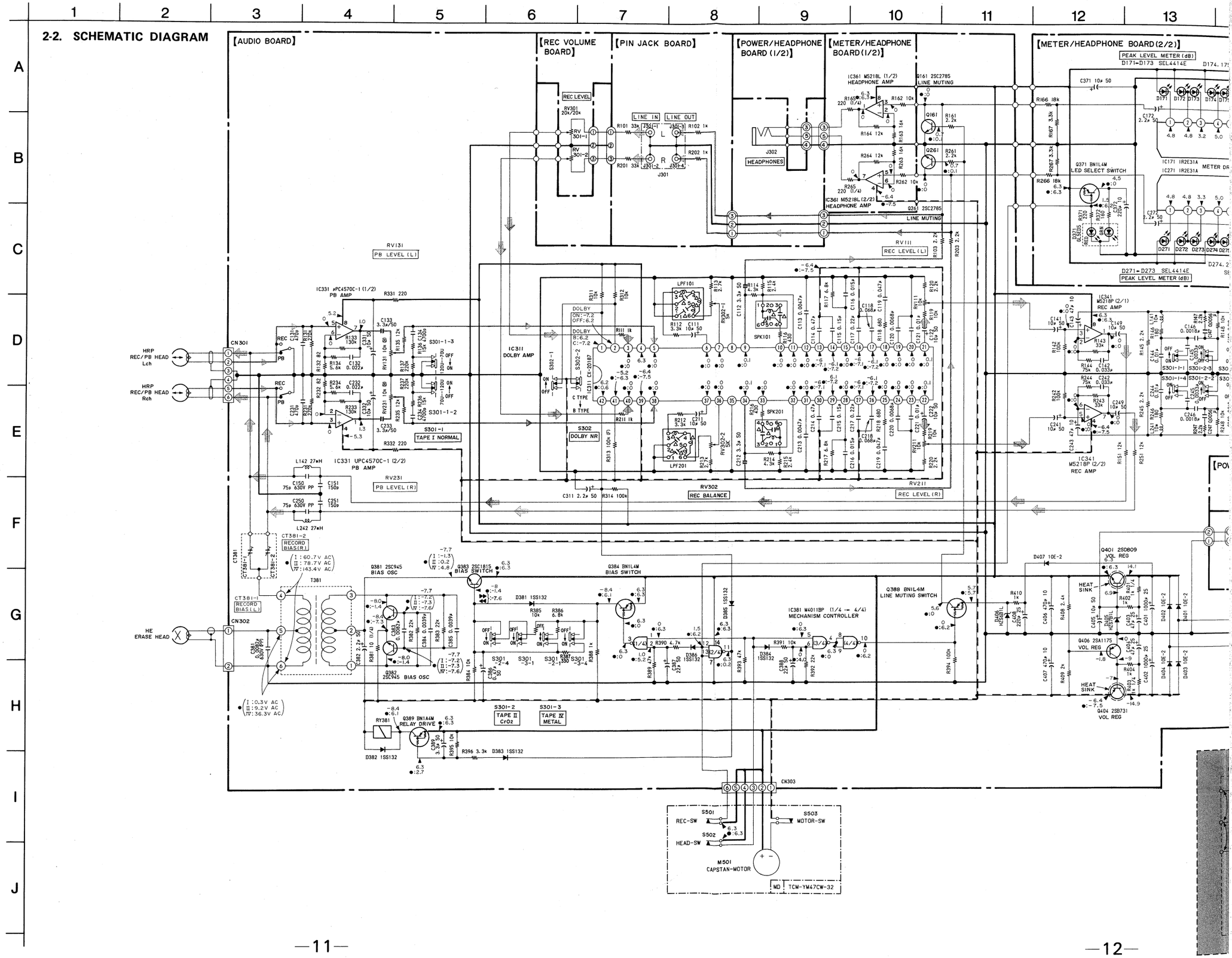
RV302 REC BALANCE

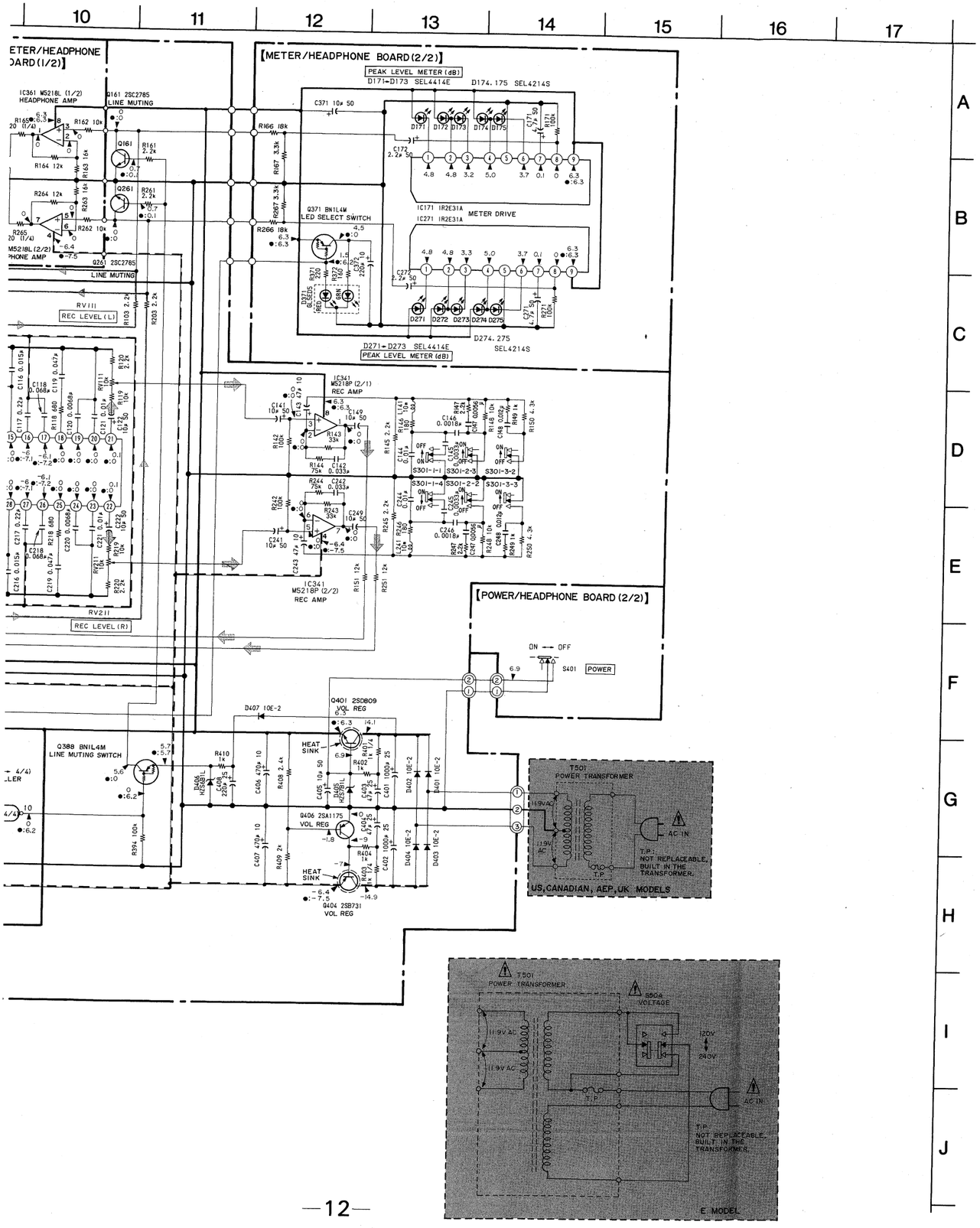
【METER/HEADPHONE BOARD】

PEAK LEVEL METER (dB)

SONY 1-623-265

2-2. SCHEMATIC DIAGRAM





Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- Components for right channel have same values as for left channel. Reference numbers are coded from 200.
- △ : internal component.
- ⏦ : fusible resistor.
- Switches:

Ref. No.	Description	Position
S301	TYPE Ⅰ	ON
	TYPE Ⅱ	OFF
	TYPE Ⅲ	OFF
S302	DOLBY ON/OFF	OFF
	DOLBY B/C	B
S401	POWER	ON

- RV

Ref. No.	Description	Position
RV301	REC LEVEL	MAX
RV302	REC BALANCE	Center

- ▬▬ : B+ bus.
- ▬ ▬ : B- bus.
- ▭ : adjustment for repair.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions with a VOM (50 kΩ/V).
- Voltage variations may be noted due to normal production tolerances.
- ▶ : PLAY ◀◀ : REW ● : REC
  ▶▶ : FF ■ : STOP
- ⟶ : playback signal path
- ⟹ : record signal path

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

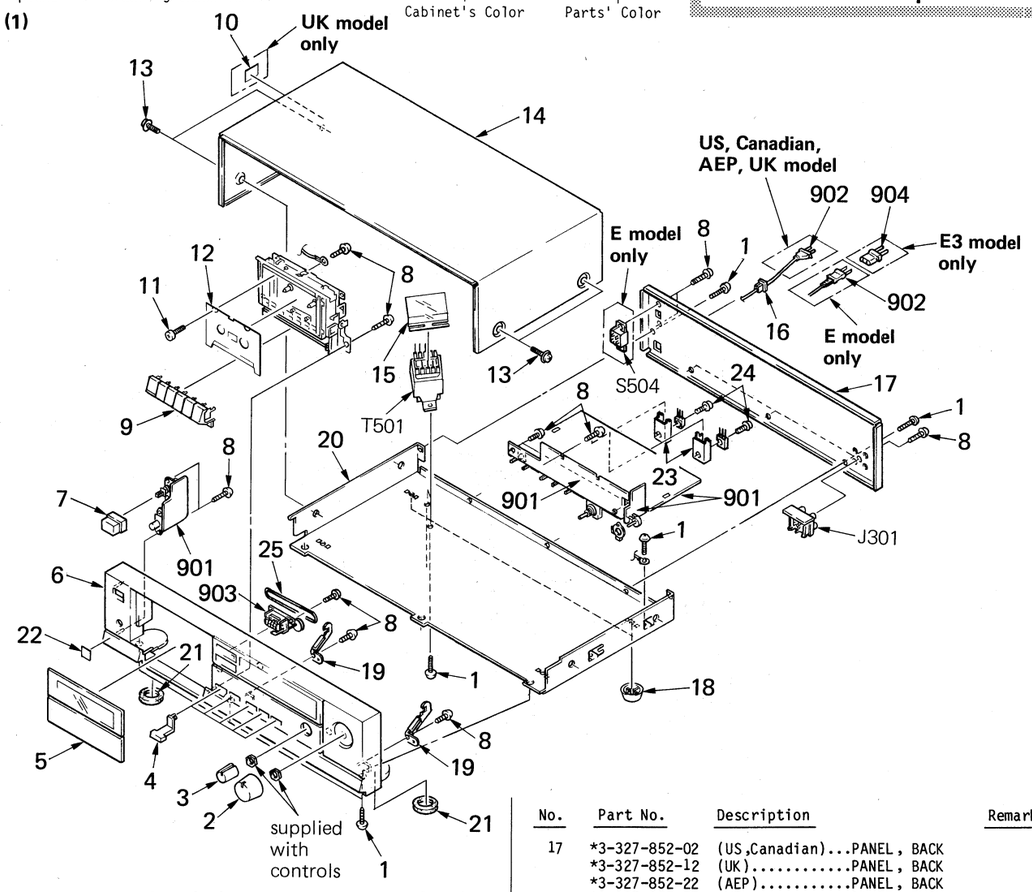
Note: Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

SECTION 3
EXPLODED VIEWS AND PARTS LIST

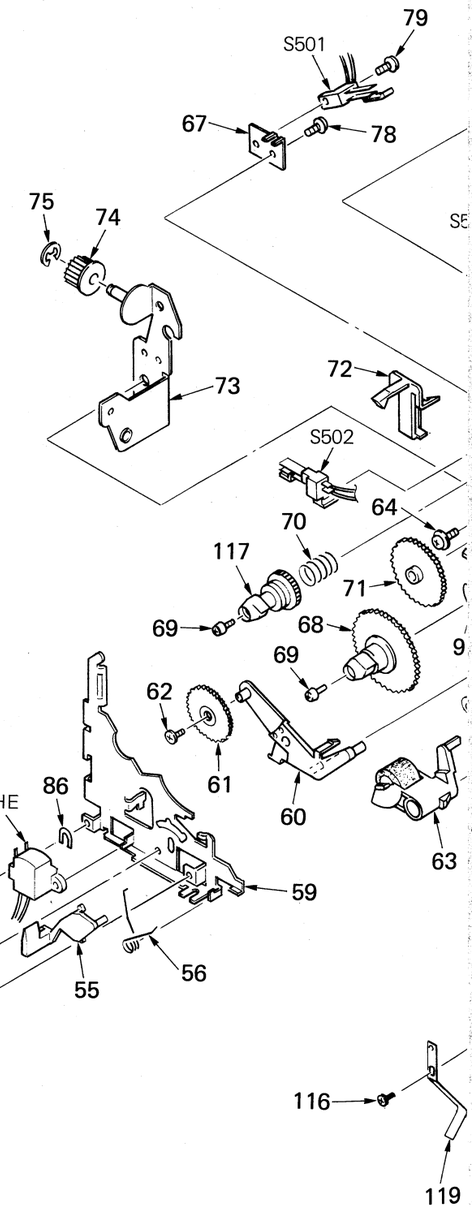
NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Color Indication of Appearance Parts
  Example: (RED) ..... KNOB, BALANCE (WHITE)
  (RED) = Cabinet's Color; (WHITE) = Parts' Color

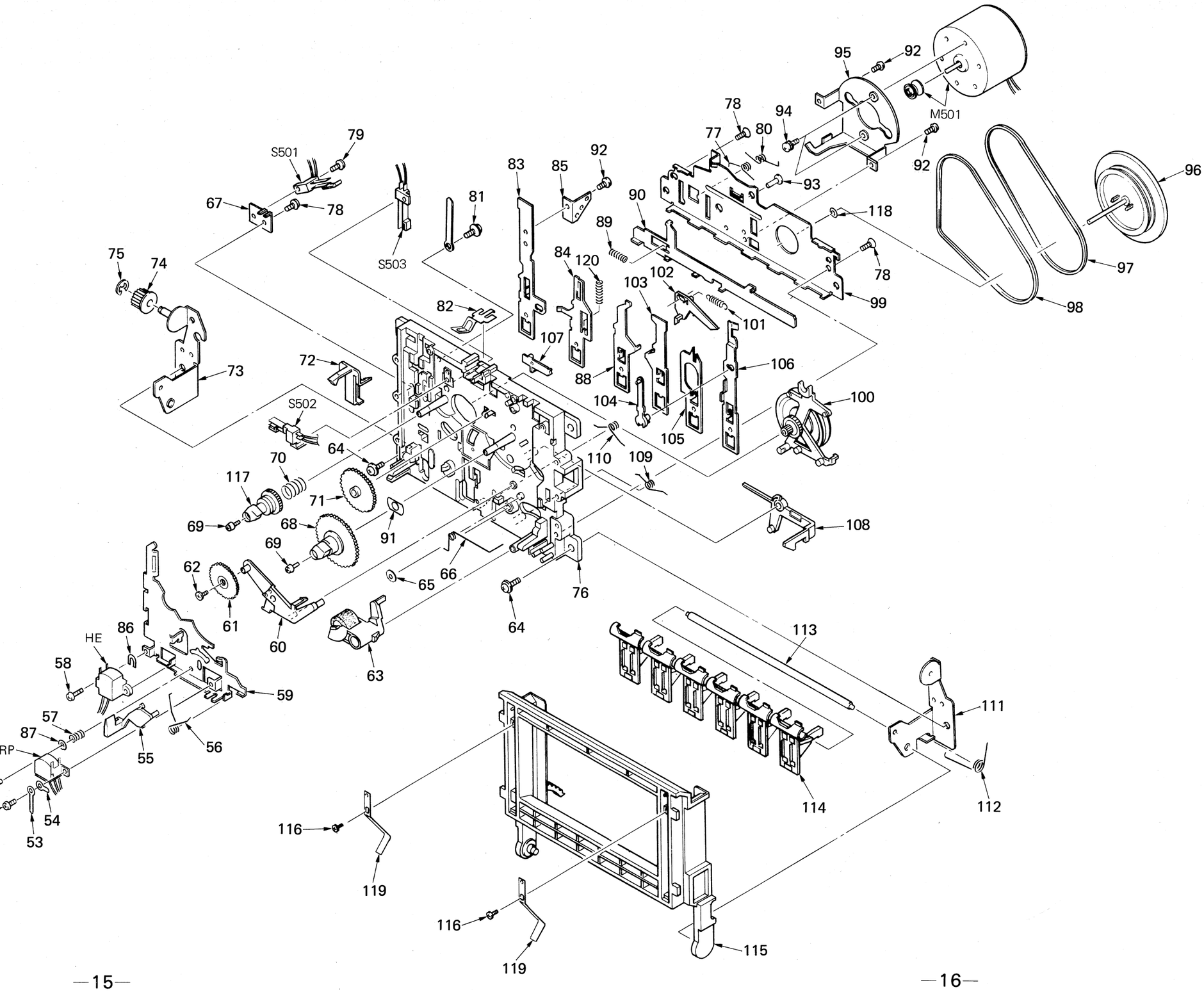
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

(1)



No.	Part No.	Description	Remarks
1	7-682-148-01	SCREW +BVTT 3X8 (S)	
2	3-327-846-01	KNOB	
3	4-916-746-01	KNOB (DIA.21)	
4	4-914-039-51	KNOB (L), FUNCTION	
5	3-327-848-01	(Canadian,AEP,UK)...LID, CASSETTE	
	3-327-848-11	(US,E).....LID, CASSETTE	
6	X-3318-950-1	(US,Canadian)...PANEL ASSY	21
	X-3318-951-1	(AEP,UK).....PANEL ASSY	
7	4-917-460-01	KNOB, POWER	
8	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
9	3-327-850-01	BUTTON BLOCK	
10	3-703-079-21	(UK).....LABEL, CAUTION (BACK)	
11	7-685-133-19	SCREW +P 2.6X6 TYPE2 NON-SLIT	
12	4-914-974-01	PLATE, ORNAMENTAL, CASSETTE	
13	4-886-821-01	SCREW, M3 CASE	
14	*3-327-853-01	CASE	
15	3-327-855-01	COVER (TRANSFORMER)	
16	3-703-244-00	(AEP,UK).....BUSHING (2104), CORD	
	3-703-571-00	(US,Canadian,E)..BUSHING (S)(4516), CORD	
17	*3-327-852-02	(US,Canadian)...PANEL, BACK	
	*3-327-852-12	(UK).....PANEL, BACK	
	*3-327-852-22	(AEP).....PANEL, BACK	
	*3-327-852-32	(E).....PANEL, BACK	
18	X-3701-069-0	FOOT ASSY, M.F	
19	*3-327-845-01	BRACKET	
20	3-327-854-01	CHASSIS	
21	*3-337-121-01	FELT, ORNAMENTAL FOOT	
22	3-703-713-41	STICKER, SONY SYMBOL (10)	
23	*3-312-615-31	HEAT SINK	
24	7-682-147-01	SCREW +BVTT 3X6 (S)	
25	3-506-040-XX	BELT, SQUARE	
901	*A-2056-371-A	MOUNTED PCB, AUDIO	
902	⚠.1-551-472-00	(E).....CORD, POWER	
	⚠.1-555-795-00	(AEP).....CORD, POWER EULO PLUG	
	⚠.1-557-578-11	(Canadian)...CORD, POWER	
	⚠.1-558-941-11	(US).....CORD, POWER(NONPOLAR.SPT-1)	
	⚠.1-558-946-11	(UK).....CORD, POWER	
903	1-548-596-21	COUNTER, TAPE (MIDDLE TYPE)	
904	⚠.1-526-565-00	(E3)...AC PLUG ADAPTOR	
J301	1-507-907-11	JACK, PIN 4P (LINE IN/LINE OUT)	
T501	⚠.1-448-093-21	(US,Canadian)...TRANSFORMER, POWER	
T501	⚠.1-448-094-31	(AEP,UK).....TRANSFORMER, POWER	
T501	⚠.1-448-095-31	(E).....TRANSFORMER, POWER	




95
92
M501
78
94
77
80
92
79
S501
83
85
92
96
67
78
81
93
90
118
89
84
120
102
103
78
75
74
S503
82
101
99
97
98
107
72
88
106
73
104
100
S502
105
64
110
109
70
117
71
91
108
69
68
69
62
65
66
76
61
60
64
63
HE
86
113
58
59
111
57
87
55
56
RP
54
112
53
116
114
119
116
115
119

No.	Part No.	Description	Remarks
51	7-621-255-15	SCREW +P 2X3	
52	7-621-905-65	SCREW, TOTSU P 2X8	
53	3-390-819-01	LUG	
54	3-390-817-01	LUG	
55	4-894-956-01	TAPE SENSOR	
56	3-390-804-01	SPRING, PINCH ARM	
57	4-894-955-01	C SPRING	
58	7-685-852-01	SCREW +BVTT 2X5 (S)	
59	4-894-957-01	HEAD BASE B	
60	4-894-962-01	IDLER ARM	
61	4-894-961-01	IDLER GEAR	
62	4-894-960-01	BUSH	
63	3-390-805-01	ROLLER ASSY, PINCH	
64	7-687-501-31	SCREW, TOTSU PTTWH 2.6X6	
65	4-894-969-01	N WASHER	
66	4-894-967-01	SPRING	
67	*3-390-829-01	BRACKET, SW	
68	4-894-963-01	T REEL ASSY	
69	3-390-803-01	BUSHING (D)	
70	4-894-954-01	C SPRING	
71	4-894-964-01	F GEAR	
72	4-894-958-01	INTERLOCK ARM	
73	*4-894-972-01	BUTTON BRACKET R	
74	4-895-001-01	GEAR	
75	7-624-106-04	STOP RING 3.0, TYPE -E	
76	4-894-968-01	CHASSIS ASSY	
77	4-894-978-01	SPRING	
78	7-685-133-19	SCREW +P 2.6X6 TYPE1	

No.	Part No.	Description	Remarks
79	7-621-259-35	SCREW +PTT 2.6X5 (S)	
80	4-894-979-01	SPRING	
81	7-687-233-11	SCREW (+ PTPWH) (2.6X6)	
82	4-894-966-01	SPRING	
83	*4-894-994-01	REC LEVER	
84	3-390-810-01	LEVER, PLAY	
85	*3-390-828-01	LEVER, RSW	
86	3-390-821-01	SPACER	
87	3-390-823-01	WASHER, F	
88	*4-894-990-01	REW LEVER	
89	4-894-983-01	C SPRING	
90	4-894-984-01	FUNCTION LEVER	
91	3-390-820-01	SPRING, LEAF	
92	7-685-781-04	SCREW +PTT 2X4 (S)	
93	3-390-822-01	BUSHING (C)	
94	7-628-253-90	SCREW +PS 2.6X4	
95	*3-390-814-01	BRACKET, MOTOR	
96	3-390-806-01	FW ASSY	
97	3-390-807-01	BELT, SQUARE	
98	3-390-816-01	BELT, SQUARE	
99	*4-894-977-01	BACK PLATE	
HE	1-543-261-11	HEAD, ERASE (886-01-24)	
HRP	1-543-424-11	HEAD, MAGNETIC (REC/PB)	
M501	1-541-239-00	MOTOR	
S501	1-571-037-11	SWITCH, LEAF (REC)	
S502	1-570-716-11	SWITCH, LEAF (HEAD)	
S503	1-570-715-11	SWITCH, LEAF (MOTOR)	

No.	Part No.	Description	Remarks
100	4-894-997-01	POWER ARM ASSY	
101	3-390-809-01	SPRING	
102	4-894-982-01	S ARM	
103	*4-894-988-01	FF LEVER W	
104	4-894-985-01	PAUSE ARM	
105	4-894-987-01	S.E LEVER	
106	4-894-986-01	PAUSE LEVER	
107	3-390-811-01	LEVER, REC STOP	
108	*4-894-980-01	EJECT ARM	
109	4-894-989-01	SPRING	

No.	Part No.	Description	Remarks
110	4-894-999-01	SPRING	
111	*4-895-017-01	BUTTON BRACKET L ASSY	
112	4-894-973-01	SPRING	
113	*4-894-970-01	BUTTON SHAFT W	
114	4-894-971-01	BUTTON LEVER	
115	3-390-801-01	CASE, CASSETTE	
116	7-685-103-19	SCREW +P 2X5 TYPE2 NON-SLIT	
117	4-894-953-01	S REEL	
118	4-894-976-01	P WASHER	
119	4-894-951-01	KEEP PLATE	

SECTION 4
ELECTRICAL PARTS LIST

NOTE:
- Items marked " ★ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuitsin a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms.
- F : nonflammable

COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA...: μA..., UPA...: μPA..., UPC...: μPC, UPD...: μPD...

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
901	*A-2056-371-A	MOUNTED PCB, AUDIO			
902	⚠1-551-472-00	(E).....CORD, POWER			
	⚠1-555-795-00	(AEP).....CORD, POWER EULO PLUG			
	⚠1-557-578-11	(Canadian)...CORD, POWER			
	⚠1-558-941-11	(US).....CORD, POWER(NONPOLAR.SPT-1)			
	⚠1-558-946-11	(UK).....CORD, POWER			
903	1-548-596-21	COUNTER, TAPE (MIDDLE TYPE)			
904	⚠1-526-565-00	(E3)..AC PLUG ADAPTOR			
C111	1-123-875-91	ELECT	10MF	20%	50V
C112	1-124-273-00	ELECT	3.3MF	20%	50V
C113	1-110-203-00	MYLAR	0.0047MF	5%	50V
C114	1-136-173-00	FILM	0.47MF	5%	50V
C115	1-136-167-00	FILM	0.15MF	5%	50V
C116	1-136-155-00	FILM	0.015MF	5%	50V
C117	1-136-169-00	FILM	0.22MF	5%	50V
C118	1-136-163-00	FILM	0.068MF	5%	50V
C119	1-136-161-00	FILM	0.047MF	5%	50V
C120	1-130-481-00	MYLAR	0.0068MF	5%	50V
C121	1-136-153-00	FILM	0.01MF	5%	50V
C122	1-123-875-91	ELECT	10MF	20%	50V
C131	1-162-290-31	CERAMIC	470PF	10%	50V
C132	1-136-157-00	FILM	0.022MF	5%	50V
C133	1-124-273-00	ELECT	3.3MF	20%	50V
C134	1-161-377-00	CERAMIC	0.0047MF	30%	16V
C141	1-123-875-91	ELECT	10MF	20%	50V
C142	1-136-159-00	FILM	0.033MF	5%	50V
C143	1-124-446-11	ELECT	47MF	20%	10V
C144	1-136-153-00	FILM	0.01MF	5%	50V
C145	1-110-201-00	MYLAR	0.0033MF	5%	50V
C146	1-130-474-00	MYLAR	0.0018MF	5%	50V
C147	1-130-480-00	MYLAR	0.0056MF	5%	50V
C148	1-136-154-00	FILM	0.012MF	5%	50V
C149	1-123-875-91	ELECT	10MF	20%	50V
C150	1-136-273-91	FILM	75PF	5%	630V
C151	1-162-284-31	CERAMIC	150PF	10%	50V
C171	1-124-927-11	ELECT	4.7MF	20%	50V
C172	1-124-925-11	ELECT	2.2MF	20%	50V
C311	1-124-925-11	ELECT	2.2MF	20%	50V
C331	1-123-875-91	ELECT	10MF	20%	50V
C332	1-123-875-91	ELECT	10MF	20%	50V
C371	1-123-875-91	ELECT	10MF	20%	50V
C372	1-124-444-00	ELECT	220MF	20%	10V
C381	1-136-562-91	FILM	0.0082MF	5%	630V
C382	1-124-925-11	ELECT	2.2MF	20%	50V

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C383	1-130-482-00	MYLAR	0.0082MF	5%	50V
C384	1-130-478-00	MYLAR	0.0039MF	5%	50V
C385	1-130-478-00	MYLAR	0.0039MF	5%	50V
C386	1-124-902-00	ELECT	0.47MF	20%	50V
C387	1-124-908-11	ELECT	22MF	20%	50V
C388	1-124-908-11	ELECT	22MF	20%	50V
C389	1-123-382-00	ELECT	3.3MF	20%	50V
C401	1-124-557-11	ELECT	1000MF	20%	25V
C402	1-124-557-11	ELECT	1000MF	20%	25V
C403	1-124-477-11	ELECT	47MF	20%	25V
C404	1-124-477-11	ELECT	47MF	20%	25V
C405	1-123-875-91	ELECT	10MF	20%	50V
C406	1-124-472-11	ELECT	470MF	20%	10V
C407	1-124-472-11	ELECT	470MF	20%	10V
C408	1-124-120-11	ELECT	220MF	20%	25V
CN301	*1-564-509-11	PLUG, CONNECTOR 6P			
CN302	*1-564-505-11	PLUG, CONNECTOR 2P			
CN303	*1-564-509-11	PLUG, CONNECTOR 6P			
CT381	1-141-225-00	CAP, TUNING, TRIMMER			
D171	8-719-304-37	DIODE SEL4414E			
D172	8-719-304-37	DIODE SEL4414E			
D173	8-719-304-37	DIODE SEL4414E			
D174	8-719-304-32	DIODE SEL4214S			
D175	8-719-304-32	DIODE SEL4214S			
D271	8-719-304-37	DIODE SEL4414E			
D272	8-719-304-37	DIODE SEL4414E			
D273	8-719-304-37	DIODE SEL4414E			
D274	8-719-304-32	DIODE SEL4214S			
D275	8-719-304-32	DIODE SEL4214S			
D371	8-719-946-89	DIODE GL5ED5			
D381	8-719-940-76	DIODE 1SS132			
D382	8-719-940-76	DIODE 1SS132			
D383	8-719-940-76	DIODE 1SS132			
D384	8-719-940-76	DIODE 1SS132			
D385	8-719-940-76	DIODE 1SS132			
D386	8-719-940-76	DIODE 1SS132			
D401	8-719-200-02	DIODE 10E2			
D402	8-719-200-02	DIODE 10E2			
D403	8-719-200-02	DIODE 10E2			
D404	8-719-200-02	DIODE 10E2			
D405	8-719-933-47	DIODE HZS7B2L			
D406	8-719-933-36	DIODE HZS6B1L			
D407	8-719-200-02	DIODE 10E2			
HE	1-543-261-11	HEAD, ERASE (886-01-24)			
HRP	1-543-424-11	HEAD, MAGNETIC (REC/PB)			

ELECTRICAL PARTS

Ref.No.	Part No.	Description
IC171	8-759-917-42	IC IR2E31A
IC271	8-759-917-42	IC IR2E31A
IC311	8-752-018-70	IC CX20187
IC331	8-759-111-44	IC UPC4570C-1
IC341	8-759-600-02	IC M5218L
IC361	8-759-600-02	IC M5218L
IC381	8-759-601-10	IC M4011BP
J301	1-507-907-11	JACK, PIN 4P (LINE IN/LINE OUT)
J302	1-507-982-11	JACK (LARGE TYPE)(HEADPHONES)
L141	1-410-775-21	MICRO INDUCTOR 10MMH
L142	1-410-780-11	MICRO INDUCTOR 27MMH
L241	1-410-775-21	MICRO INDUCTOR 10MMH
L242	1-410-780-11	MICRO INDUCTOR 27MMH
LPF101	1-235-980-11	FILTER, LOW PASS
LPF201	1-235-980-11	FILTER, LOW PASS
M501	1-541-239-00	MOTOR
Q161	8-729-600-27	TRANSISTOR 2SC634SP
Q261	8-729-600-27	TRANSISTOR 2SC634SP
Q371	8-729-806-20	TRANSISTOR 2SA1345
Q381	8-729-600-27	TRANSISTOR 2SC634AP
Q382	8-729-600-27	TRANSISTOR 2SC634SP
Q383	8-729-281-53	TRANSISTOR 2SC1815BL
Q384	8-729-806-20	TRANSISTOR 2SA1345
Q388	8-729-806-20	TRANSISTOR 2SA1345
Q389	8-729-159-01	TRANSISTOR 2SA1348
Q401	8-729-180-93	TRANSISTOR 2SD809
Q404	8-729-173-13	TRANSISTOR 2SB731
Q406	8-729-204-83	TRANSISTOR 2SA1048-GR
R101	1-249-435-11	CARBON 33K 5% 1/4W
R102	1-249-417-11	CARBON 1K 5% 1/4W
R103	1-249-421-11	CARBON 2.2K 5% 1/4W
R111	1-249-417-11	CARBON 1K 5% 1/4W
R112	1-249-423-11	CARBON 3.3K 5% 1/4W
R113	1-249-422-11	CARBON 2.7K 5% 1/4W
R114	1-215-436-00	CARBON 4.3K 5% 1/4W
R115	1-215-430-00	CARBON 2.4K 5% 1/4W
R116	1-215-412-00	CARBON 430 5% 1/4W
R117	1-249-427-11	CARBON 6.8K 5% 1/4W
R118	1-249-415-11	CARBON 680 5% 1/4W
R119	1-249-429-11	CARBON 10K 5% 1/4W
R120	1-249-421-11	CARBON 2.2K 5% 1/4W
R131	1-215-479-00	CARBON 270K 5% 1/4W
R132	1-249-404-00	CARBON 82 5% 1/4W
R133	1-215-472-00	CARBON 130K 5% 1/4W
R134	1-247-849-00	CARBON 5.6K 5% 1/4W
R135	1-249-430-11	CARBON 12K 5% 1/4W

ELECTRICAL PARTS

Ref.No.	Part No.	Description
R136	1-249-431-11	CARBON 15K 5% 1/4W
R137	1-247-887-00	CARBON 220K 5% 1/4W
R142	1-249-441-11	CARBON 100K 5% 1/4W
R143	1-249-435-11	CARBON 33K 5% 1/4W
R144	1-215-466-00	CARBON 75K 5% 1/4W
R145	1-249-421-11	CARBON 2.2K 5% 1/4W
R146	1-249-408-11	CARBON 180 5% 1/4W
R147	1-249-421-11	CARBON 2.2K 5% 1/4W
R148	1-249-429-11	CARBON 10K 5% 1/4W
R149	1-249-419-11	CARBON 1K 5% 1/4W
R150	1-215-436-00	CARBON 4.3K 5% 1/4W
R151	1-249-430-11	CARBON 12K 5% 1/4W
R161	1-249-421-11	CARBON 2.2K 5% 1/4W
R162	1-249-429-11	CARBON 10K 5% 1/4W
R163	1-215-450-00	CARBON 16K 5% 1/4W
R164	1-249-430-11	CARBON 12K 5% 1/4W
R165	1-247-704-11	CARBON 220 5% 1/4W
R166	1-249-432-11	CARBON 18K 5% 1/4W
R167	1-249-423-11	CARBON 3.3K 5% 1/4W
R171	1-249-441-11	CARBON 100K 5% 1/4W
R311	1-249-429-11	CARBON 10K 5% 1/4W
R312	1-249-429-11	CARBON 10K 5% 1/4W
R313	1-215-469-00	METAL 100K 1% 1/6W
R314	1-249-441-11	CARBON 100K 5% 1/4W
R331	1-249-409-11	CARBON 220 5% 1/4W
R332	1-249-409-11	CARBON 220 5% 1/4W
R371	1-249-409-11	CARBON 220 5% 1/4W
R372	1-215-402-00	CARBON 160 5% 1/4W
R381	1-247-688-11	CARBON 10 5% 1/4W
R382	1-249-433-11	CARBON 22K 5% 1/4W
R383	1-249-433-11	CARBON 22K 5% 1/4W
R384	1-249-429-11	CARBON 10K 5% 1/4W
R385	1-249-429-11	CARBON 10K 5% 1/4W
R386	1-249-427-11	CARBON 6.8K 5% 1/4W
R387	1-249-411-11	CARBON 330 5% 1/4W
R388	1-249-417-11	CARBON 1K 5% 1/4W
R389	1-249-437-11	CARBON 47K 5% 1/4W
R390	1-249-425-11	CARBON 4.7K 5% 1/4W
R391	1-249-429-11	CARBON 10K 5% 1/4W
R392	1-249-433-11	CARBON 22K 5% 1/4W
R393	1-249-437-11	CARBON 47K 5% 1/4W
R394	1-249-441-11	CARBON 100K 5% 1/4W
R395	1-249-429-11	CARBON 10K 5% 1/4W
R396	1-249-423-11	CARBON 3.3K 5% 1/4W
R401	1-247-713-11	CARBON 1K 5% 1/4W

ELECTRICAL PARTS

Ref.No.	Part No.	Description
R402	1-249-417-11	CARBON 1K 5% 1/4W
R403	1-247-713-11	CARBON 1K 5% 1/4W
R404	1-249-417-11	CARBON 1K 5% 1/4W
R408	1-215-430-00	CARBON 2.4K 5% 1/4W
R409	1-247-838-00	CARBON 2K 5% 1/4W
R410	1-249-417-11	CARBON 1K 5% 1/4W
RV111	1-228-994-00	RES, ADJ, CARBON 10K (REC LEVEL L)
RV131	1-228-994-00	RES, ADJ, CARBON 10K (PB LEVEL L)
RV211	1-228-994-00	RES, ADJ, CARBON 10K (REC LEVEL R)
RV231	1-228-994-00	RES, ADJ, CARBON 10K (PB LEVEL R)
RV301	1-237-775-11	RES, VAR, CARBON 20K/20K (REC LEVEL)
RV302	1-237-774-11	RES, VAR, CARBON 5K/5K (REC BALANCE)
RY381	1-515-614-11	RELAY
S301	1-571-140-11	SWITCH, PUSH (3 KEY)(TAPE NORMAL I,II,IV)
S302	1-571-141-11	SWITCH, PUSH (2 KEY)(DOLBY NR)
S401	1-570-103-21	SWITCH, PUSH (1 KEY)(POWER)
S501	1-571-037-11	SWITCH, LEAF (REC)
S502	1-570-716-11	SWITCH, LEAF (HEAD)
S503	1-570-715-11	SWITCH, LEAF (MOTOR)
S504 ⚠	1-552-535-00	(E)..SWITCH, VOLTAGE CHANGE
SPK101	1-235-186-00	ENCAPSULATED COMPONENT
SPK201	1-235-186-00	ENCAPSULATED COMPONENT
T381	1-433-303-11	TRANSFORMER, BIAS OSCILLATION
T501 ⚠	1-448-093-21	(US,Canadian)...TRANSFORMER, POWER
T501 ⚠	1-448-094-31	(AEP,UK).....TRANSFORMER, POWER
T501 ⚠	1-448-095-31	(E).....TRANSFORMER, POWER

ACCESSORY & PACKING MATERIAL

Part No.	Description
1-558-543-11	CORD, CONNECTION
3-327-843-01	CUSHION
3-327-844-01	INDIVIDUAL CARTON
3-701-630-00	BAG, POLYETHYLENE
3-703-450-01	(US)...INSTRUCTION
3-703-713-41	STICKER, SONY SYMBOL (10)
3-769-251-11	(AEP).....MANUAL, INSTRUCTION
3-769-251-21	(US,Canadian)...MANUAL, INSTRUCTION
3-769-251-31	(AEP,E,UK).....MANUAL, INSTRUCTION
3-769-251-41	(Canadian).....MANUAL, INSTRUCTION

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

TROUBLE CHECKS

The following trouble checks will help you correct the most common problems encountered with your tape deck. Should any problems persist after making these checks, consult your nearest Sony dealer.

Before proceeding with these trouble checks, first confirm the following basic points:

- The power cord is firmly connected.
- The amplifier connections are firmly made.
- The heads, capstan and pinch roller are clean.
- The amplifier controls and switches are set correctly.

TAPE OPERATION BUTTONS AND TAPE TRANSPORT	
Trouble	**Cause and/or remedy**
The tape does not run when the operation button is pressed.	The cassette is not properly inserted.
	The cassette holder is not properly closed.
	The ❚❚ button is depressed. ➡ Depress the ❚❚ button again to release the pause mode.
The transport noise seems excessively loud in rewind or fast forward mode.	No trouble. This situation depends upon the cassette used.
The unit shuts off before the end of the tape.	The cassette is defective.
The ● button does not activate.	No cassette is in the holder.
	The cassette tabl has been removed. ➡ Cover the hole with plastic tape.
The fast forward or rewind mode does not shut off automatically.	No trouble. Press ■ ⏏ to shut off the fast forward or rewind mode.

RECORDING AND PLAYBACK	
Trouble	**Cause and/or remedy**
Recording or playback cannot be made or there is a decrease in sound level.	The heads are dirty.
	The connections are not made properly.
	The input selector of the amplifier is not set to the correct position.
Excessive wow and flutter or dropout	The heads, capstans or pinch rollers are dirty.
Incomplete erasure	The erase head is dirty.
Increase of noise or erasure	Magnetic build-up on the head. ➡ Demagnetize the head.
Unbalanced tone in higher frequencies	The DOLBY NR switches are not set to the correct position. ➡ During playback, set the switches to the same position used in recording.
	The TAPE SELECT switches are not set to the correct position during playback.

NOISE	
Trouble	**Cause and/or remedy**
A hum heard	The deck is placed directly on or under the amplifier. ➡ Move the deck away from the amplifier.
Noise is recorded	Recording is made near a television set or a color monitor. ➡ Move the deck away from the television set or color monitor.